Ian M Richardson

List of Publications by Citations

44 papers	868 citations	16 h-index	29 g-index
47 ext. papers	1,023 ext. citations	4.1 avg, IF	4.32 L-index

#	Paper	IF	Citations
44	Revealing internal flow behaviour in arc welding and additive manufacturing of metals. *Nature Communications*, **2018**, 9, 5414	17.4	93
43	Microstructure and mechanical properties of AA7075(T6) hybrid laser/GMA welds. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2007**, 459, 94-100	5.3	72
42	The effect of tensile deformation by in situ ultrasonic treatment on the microstructure of low-carbon steel. *Acta Materialia*, **2013**, 61, 1592-1602	8.4	71
41	The effect of oxygen on transitional Marangoni flow in laser spot welding. *Acta Materialia*, **2010**, 58, 6345-6357	8.4	71
40	A study on the influence of clamping on welding distortion. *Computational Materials Science*, **2009**, 45, 999-1005	3.2	60
39	Mechanism and possible solution for transverse solidification cracking in laser welding of high strength aluminium alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2006**, 429, 287-294	5.3	59
38	Physically based modelling of phase transformations during welding of low-carbon steel. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2006**, 427, 223-231	5.3	42
37	Kinetics of the martensitic transformation in low-alloy steel studied by means of acoustic emission. *Acta Materialia*, **2003**, 51, 4183-4196	8.4	41
36	Effect of enhanced heat and mass transport and flow reversal during cool down on weld pool shapes in laser spot welding of steel. *International Journal of Heat and Mass Transfer*, **2013**, 66, 879-888	4.9	38
35	Microstructural characterisation of double pulse resistance spot welded advanced high strength steel. *Science and Technology of Welding and Joining*, **2017**, 22, 545-554	3.7	34
34	Effect of silicon solar cell processing parameters and crystallinity on mechanical strength. *Solar Energy Materials and Solar Cells*, **2011**, 95, 97-100	6.4	34
33	Phase-field modelling and synchrotron validation of phase transformations in martensitic dual-phase steel. *Acta Materialia*, **2007**, 55, 601-614	8.4	30
32	Modeling buckling distortion of DP600 overlap joints due to gas metal arc welding and the influence of the mesh density. *Computational Materials Science*, **2009**, 46, 977-986	3.2	23
31	Sensitivity of Numerical Predictions to the Permeability Coefficient in Simulations of Melting and Solidification Using the Enthalpy-Porosity Method. *Energies*, **2019**, 12, 4360	3.1	21
30	Kinetics of bainitic transformation and transformation plasticity in a high strength quenched and tempered structural steel. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2013**, 559, 86-95	5.3	19
29	Microstructure and mechanical properties of aluminum back contact layers. *Solar Energy Materials and Solar Cells*, **2011**, 95, 93-96	6.4	16
28	Quantitative Analysis of Microstructural Constituents in Welded Transformation-Induced-Plasticity Steels. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2010**, 41, 431-439	2.3	16

27	In situ synchrotron diffraction studies on the temperature-dependent plane-specific elastic constants in a high-strength quenched and tempered structural steel. *Scripta Materialia*, **2013**, 69, 187-190	5.6	14
26	An integrated model for the post-solidification shape and grain morphology of fusion welds. *International Journal of Heat and Mass Transfer*, **2015**, 85, 667-678	4.9	13
25	Heat distribution in resistance upset butt welding. *Journal of Materials Processing Technology*, **2009**, 209, 2715-2722	5.3	11
24	Observations on Droplet and Arc Behaviour during Pulsed GMAW. *Welding in the World, Le Soudage Dans Le Monde*, **2009**, 53, R171-R180	1.9	11
23	Fatigue properties of laser-brazed joints of Dual Phase and TRansformation Induced Plasticity steel with a copper□luminium consumable. *Materials & Design*, **2010**, 31, 3922-3928		11
22	Multiscale, Multiphysics Numerical Modeling of Fusion Welding with Experimental Characterization and Validation. *Jom*, **2013**, 65, 99-106	2.1	10
21	A review of wire arc additive manufacturing: development, principles, process physics, implementation and current status. *Journal Physics D: Applied Physics*, **2021**, 54, 473001	3	10
20	A simulation-based approach to characterise melt-pool oscillations during gas tungsten arc welding. *International Journal of Heat and Mass Transfer*, **2021**, 164, 120535	4.9	9
19	Numerical study of molten metal melt pool behaviour during conduction-mode laser spot melting. *Journal Physics D: Applied Physics*, **2021**, 54, 105304	3	8
18	The Influence of Surface Deformation on Thermocapillary Flow Instabilities in Low Prandtl Melting Pools with Surfactants		5
17	Fatigue Performance of Laser Brazes in Advanced High Strength Steels. *Materials Science Forum*, **2010**, 638-642, 3254-3259	0.4	4
16	Effect of microstructure and processing parameters on mechanical strength of multicrystalline silicon solar cells **2010**,		4
15	Residual and bending stress measurements by X-ray diffraction and synchrotron diffraction analysis in silicon solar cells **2012**,		3
14	In Situ Synchrotron Diffraction Studies on Hot Deformation of Austenite in a High Strength Quenched and Tempered Structural Steel. *Advanced Materials Research*, **2014**, 922, 126-131	0.5	2
13	Microstructural Evolution during Gas Tungsten Arc, Laser and Resistance Spot Welding of Al-Containing Transformation Induced Plasticity (TRIP) Steel. *Advanced Materials Research*, **2010**, 89-91, 23-28	0.5	2
12	Application of X-ray computed tomography in silicon solar cells **2010**,		2
11	The Effect of Groove Shape on Molten Metal Flow Behaviour in Gas Metal Arc Welding. *Materials*, **2021**, 14,	3.5	2
10	Fracture Toughness of Welded Thick Section High Strength Steels and Influencing Factors1031-1038		2

9	The effects of process parameters on melt-pool oscillatory behaviour in gas tungsten arc welding. *Journal Physics D: Applied Physics*, **2021**, 54, 275303	3	2
8	Numerical Investigation of the Influence of Microstructure on the Residual Stress Distribution and Distortion in DP600 Welds. *Materials Science Forum*, **2011**, 681, 79-84	0.4	1
7	Experimental and Numerical Investigation of Residual Stress and Distortion Control during Welding of AISI-316L Plates. *Materials Science Forum*, **2012**, 706-709, 2950-2955	0.4	1
6	Mechanical Strength of Silicon Solar Wafers Characterized by Ring-on-Ring Test in Combination with Digital Image Correlation241-248		1
5	The influence of laser characteristics on internal flow behaviour in laser melting of metallic substrates. *Materials and Design*, **2022**, 214, 110385	8.1	0
4	Applicability Study of Pulsed Laser Beam Welding on Ferritic/Martensitic ODS Eurofer Steel. *Metals*, **2020**, 10, 736	2.3	
3	Residual Stress Measurements in Multi-Pass Welded High Strength Steel Using Energy Dispersive Synchrotron X-Ray Diffraction. *Advanced Materials Research*, **2014**, 922, 177-182	0.5	
2	Synchrotron Diffraction Studies on the Transformation Strain in a High Strength Quenched and Tempered Structural Steel. *Materials Science Forum*, **2014**, 777, 231-236	0.4	
1	Influence of the Hardening Model on the Predicted Welding Distortion of DP600 Lap Joints. *Materials Science Forum*, **2010**, 638-642, 3710-3715	0.4	